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ABSTRACT

Information is divided into the following sections--(1) the selection of nylon carpet, (2) the advantages of nylon for carpets, (3) the characteristics of nylon carpet, (4) soiling and soil retardants, (5) vacuum cleaning, (6) spot cleaning and freshening of traffic lanes, (7) wet cleaning (shampooing), and (8) miscellaneous carpet maintenance information. (RK)

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Maintenance Manual

FOR CARPETS MADE WITH DU PONT CARPET NYLON

Du Pont's labels for Carpet Nylon identify carpet qualities with a pile of 100% Du Pont nylon—engineered specially for carpet use, and meeting quality standards set by Du Pont. Specify Nylon Carpets bearing these important labels.

ALL NYLON PILE
MADE 100% OF
DU PONT
CARPET NYLON
THIS TAG FURNISHED BY E. I. DU PONT DE NEMOURS & CO. (INC.)
FOR USE ONLY ON CARPETS WITH A PILE 100% OF THAT NYLON
SPECIFICALLY RECOMMENDED BY DU PONT FOR USE IN CARPETS

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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MAINTENANCE MANUAL FOR CARPETS MADE WITH DU PONT CARPET NYLON

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MAINTENANCE MANUAL FOR CARPETS MADE WITH DU PONT CARPET NYLON

I. INTRODUCTION

The commercial carpet purchaser knows the importance of proper carpet maintenance and makes it a major consideration in the purchase of every new carpet. This manual is provided as a guide for those who wish to take advantage of the superior performance of carpets made of Du Pont Carpet Nylon in a manner best suited to their particular installation.

There are two very important points which should be made with respect to carpets of Du Pont Carpet Nylon.

(1) Carpets of no other fiber can withstand the abuse and hard wear, which nylon carpets can survive.

(2) Under conditions of proper maintenance, carpets of nylon will retain their original appearance longer than carpets of any other fiber in a comparable construction.

Over the past 14 years, well-documented case studies, as well as extensive laboratory and field tests, have established both of these facts. Carpets of Du Pont Carpet Nylon have thoroughly demonstrated their beauty, their unsurpassed durability, even under conditions of extremely heavy use, and resilience long associated with fine floor coverings. Greatly increased distribution and sales of nylon carpeting and the completion of a very comprehensive test program have led us to prepare this manual for the guidance of those who now own, or contemplate buying, fine floor coverings of Du Pont Carpet Nylon.

II. INFLUENCE OF CARPET CONSTRUCTION - SELECTING YOUR NYLON CARPET

Just as the use of fine cake flour does not insure a perfect cake at the hands of every cook, the use of nylon in carpets does not in itself insure outstanding quality. In addition to having a properly engineered nylon carpet fiber, carpet quality is dependent on styling, design, yarn spinning, dyeing, other carpet components and manufacturing standards. As with other products, the user's best guarantee of quality should be based on the integrity of the manufacturer whose brand the carpet bears. Every effort is being made to acquaint all manufacturers with the best techniques available for the production of highest quality carpets. Carpets which bear the labels supplied by Du Pont have met quality standards which were developed to give best consumer satisfaction.

Such phases of carpet performance as growth in size (leading to buckling), or shrinkage of the carpet during wet cleaning, are entirely functions of the carpet backing components. Nylon carpets are currently available in every construction used in the industry. Choice of construction should be based on style desired, conditions of traffic likely to be encountered, and type of installation; as durability alone is a secondary consideration in nylon carpets... Choose colors or designs to fit the decorating scheme and traffic conditions expected, remembering that light pastel or dark colors will show soil much more rapidly than medium colors regardless of pile fiber.

Recommendations of the manufacturer should be followed regarding the use of padding. To increase luxury under foot with low pile carpets and to simplify installation, padding of all commonly available types have been used successfully with nylon. In general, padding is recommended since it helps protect the backing, as well as increasing the luxurious feel of a carpet.

III. ADVANTAGES OF NYLON IN CARPETS

(1) Factors contributing to maintenance of original beauty

- Fast colors in unlimited range
- Twist and texture retention (heat set)
- Crush recovery
- Durability -- abrasion resistance -- flex life
- Requires no mothproofing

(2) Factors contributing to successful, easy maintenance in commercial installations

- Rapid drying
- Texture retention after cleaning
- Removal of most spots or stains (see care instructions)
- Color fastness

(3) Other Advantages

- Nonallergenic
- Resistant to rot caused by dampness or mildew
- Nylon does not readily support combustion

IV. CARPET CHARACTERISTICS

(1) Shading

After installation, some floor coverings appear to change color in certain areas, appearing darker when viewed from one direction and lighter than the remainder of the carpet when viewed from the opposite direction. This is not a flaw, but is a general characteristic of cut pile fabrics and is associated with the directional "lay" of the fibers in the pile, more so for plain colors and textures than for those containing patterns.

The explanation of shading lies in the difference of the light reflection of the ends of the pile yarns as contrasted to their sides, a fact which can be confirmed by running the hand or a brush in the direction of, and against, the pile lay.

(2) Shedding

With cut pile carpets, it is normal for a small quantity of short fibers to work their way to the surface, producing a "fluff". Because of the controlled length of nylon carpet staple, the quantity of this material should be less with nylon than with natural fibers. However, the high tenacity and high abrasion resistance of the nylon fibers may cause this slight fuzz to persist longer than with carpets of other fibers. Vigorous brushing and/or vacuuming of the pile should remove this fluff in a relatively short period of time. If shedding occurs in an area where it cannot be tolerated even temporarily, clipping with scissors or electric clippers has proven most satisfactory. Shedding has essentially been eliminated in loop pile constructions of Du Pont continuous filament Carpet Nylon.

(3) Sprouting

In service, a sharp object (such as a nail protruding from a shoe sole) may infrequently catch and raise one tuft above the level of other tufts in a carpet. This is more likely to occur with a loop pile fabric. Such tufts are not likely to be broken off or worn off with nylon and should be clipped level with the remainder of the carpet pile. This should not be considered a carpet or fiber defect.

(4) Fuzzing

Fuzzing occurs with carpets of all fibers, but again, is most pronounced with loop fabrics where longer fibers are available and can work to the surface. Du Pont recommends only Du Pont continuous filament for loop pile constructions as its use will minimize pilling and fuzzing. With other fibers, this fuzz is normally broken off or worn off in a relatively short period of time. The much tougher, extremely long-wearing nylon fibers are liable to persist somewhat longer in extreme cases forming objectionable "pills" or cobwebs. If objectionable fuzzing should occur, it can be removed without harm to the carpet by shearing, preferably with an electric clipper of the type used in shearing animals.

(5) Static

Static can be annoying in a carpet, particularly during periods of low humidity. For nylon the static level is about the same as wool in a new carpet, falling during use. Maintenance of a healthful level of relative humidity is the preferred way to minimize static.

For relief from the development of annoying static, spray applications of anti-static agents have been used with success. Most such compounds tend to promote soiling and, therefore, should be used in the minimum quantity necessary. Fortunately, very low concentrations of such materials are quite effective; and the over-all effect on soiling should be slight. Such treatments are moderately durable, depending on the material used and the volume of traffic. Some of the compounds available for this purpose are "Stat-Eze5" (Fine Organics, Inc. - New York), "Static Proof Pro." (Wade & Wenger Associates, Inc. - Chicago, Ill.), and "Bigelow Anti-Shock Spray" (Bigelow-Sanford, Inc., New York, N. Y.). Manufacturers' recommendations and limitations concerning use should be followed with all of the above.

V. SOILING AND SOIL RETARDANTS

Carpets are subjected to the most severe soiling conditions of any textile product. The rate at which soiling occurs depends on a great number of factors, including the nature of the installation itself, the traffic frequency, carpet construction, color and maintenance conditions. Carefully controlled soiling tests conducted by the National Institute of Rug Cleaning indicate that fiber type is not the major factor in the rate of soiling. It is well known that light or bright colors and plain fabrics show soil more rapidly than medium shades or patterned rugs.

Being smooth, fibers of Du Pont nylon are not so likely to entrap soil particles as other carpet fibers. This is offset to some degree by the bright, translucent nature of the fiber which makes the soil which is retained somewhat more visible than with duller fibers. Those who desire the styling afforded by bright clear shades on nylon carpets should be advised of the more rapid soil appearance likely to develop on such carpenting. Blends of bright and dull carpet nylon can be used where it is desirable to minimize the change in initial appearance. Also, Du Pont continuous filament Carpet Nylon is specifically engineered to reduce the appearance of soil.

Some manufacturers treat carpets likely to soil rapidly with a soil retardant. These compounds are most effective against dry soil; and, in some cases, actually double the period of time for a light colored carpet to become objectionably soiled. Such treatments are generally not permanent to wet cleaning, but reapplication of the retardant can be made by spray application to the cleaned rug. There are also home-use carpet shampoos in which soil retardants are included.

VI. VACUUM CLEANING

The best protection for a very worthwhile investment in nylon carpets is a regular, methodical program of carpet maintenance. It is much easier to remove dirt from the surface of a carpet than to remove it after it has become imbedded in the pile. A daily once-over with a vacuum cleaner is highly recommended, and in heavy traffic areas several vacuumings a day may be necessary. The Carpet Institute suggests that "For top cleaning performance, we take off our hat to the motor-driven brush and beater-bar electric cleaner. It does an excellent job of getting at the soil imbedded in the pile of the carpeting and also aids in keeping the pile upright." Recent improvements in tank and cannister-type cleaners make these highly effective in soil removal also. At least once or twice a week, carpets should receive a very thorough vacuuming to remove soil not gotten in the once-over treatment.

VII. SPOT CLEANING AND FRESHENING OF TRAFFIC LANES

As a result of tests carried out with over 50 types of stains and spots likely to be encountered on carpets, using 8 types of rug spotting agents, the NIRC drew the following conclusions: (1) Spots and stains can be removed from nylon carpets with conventional techniques, and with more success than with other types of carpet fibers. (2) Texture changes during spot cleaning are less for nylon carpets than for carpets of other fibers. When accidents do happen, it is easier to repair the damage with tough, durable nylon, than with any other quality carpet fiber. The following general information is included for guidance in removal of spills and stains.

Three general rules concerning spills and accidents:

1. Take prompt action - Immediate care saves time and trouble.

2. Scrape, blot, or soak up spill - Using tissue, clean rags or sponge.

3. Confine area of spill - Work from edges toward center.

All stains have a tendency to become more permanent with longer contact time. Also, relatively colorless liquids like drinks or animal accidents develop color upon standing. Blotting or soaking up liquid immediately with adequate quantities of absorbent tissue, rags or sponges prevents spreading of discoloration and substantially reduces effort required for removal.

Many materials are readily removable with a dilute detergent solution. These include such things as mud, egg, glue, grass stain, fruit juice, cola, urine, etc. For this type of spot or stain, dissolve a teaspoonful of synthetic detergent such as "Vel", "Dreft", "Breeze" or "Carolyn" (not soap) in a cup of lukewarn water and apply sparingly to the spot. Sponge the stained area with a clean cloth, working from the edges toward the center with a rotary motion. Rinse thoroughly by wiping with a clean cloth dampened with lukewarn water. Absorb excess moisture with dry cloths or tissues.

Inks (both permanent and washable), mustard, mercurochrome and other similar antiseptics, coffee, and blood all contain materials that act like dyes and may cause a permanent change of color. Nevertheless, prompt treatment with detergent and water will minimize the color change. The skills of a professional rug cleaner may be required.

Stains of an oily or greasy type, such as wax, cosmetics, shoe polish, crayon, chewing gum, and greasy foods are best removed with household spot remover or dry cleaning solvent. Use with adequate ventilation and protect the skin from contact with the spot remover or solvent. Avoid the use of flammable solvents. Follow directions on the container.

Any pile disturbance caused by the spot cleaning can usually be overcome by blotting in the direction of the pile lay. Directing a stream of air from a vacuum cleaner on the affected spot will promote rapid drying.

In the event that the above suggestions do not provide complete satisfaction, the services of a professional rug cleaner should be sought.

Absorbent Powder Cleaning - Traffic Lanes

In rooms or public spaces where traffic is concentrated, (such as at doorways), vacuum cleaning alone may not be completely effective in maintaining an attractive over-all carpet appearance. The use of an absorbent powder cleaner such as "Sprinkle-Kleen", "Powderene", "Host" and "Glamorene" can be effective for area cleaning in such cases.

Absorbent powder cleaners are also useful in the removal of oily type stains prior to wet cleaning, and in the removal of oily-end streaks in newly installed carpeting. Nylon responds to such cleaners in the same manner as other carpet fibers, and manufacturers' application directions should be followed.

VIII. WET CLEANING (Shampooing)

A. Plant Cleaning

For rugs which are not installed, or for the those which are readily removable, plant cleaning is generally the most thorough and the most economical method for removal of soil. The pre-dusting, the rinsing, and the rapid drying of this method cannot be achieved outside the plant. Where rugs have been cut to fit certain dimensions, it should be noted that wetting out the backing yarns always increases the possibility of shrinkage. The plant cleaning performance of nylon carpets has been thoroughly checked by the N.I.R.C. using the rotary brush method, the automatic reciprocating brush machine, the pressurized jet machine, the wash wheel, and a dry cleaning tumbler. Results of this work, reported fully in N.I.R.C.

Bulletin T-59, may be summarized as follows: (1) Using standard plant techniques, nylon rugs may be cleaned very satisfactorily, being much like wool in this respect. (2) Warm detergents at approximately twice customary concentration give superior cleaning on nylon carpets, (including very heavily soiled ones). (3) Texture changes with nylon are less than those which occur with other carpet fibers.

Having discussed the cleanability of nylon with manufacturers of all types of rug cleaning equipment, with detergent manufacturers, and with a substantial cross-section of the major carpet cleaners of the country, we feel justified in saying that quality nylon carpets can be cleaned by a greater variety of cleaning procedures with a higher percentage of owner satisfaction than is the case for any other carpet fiber.

B. On-Location Cleaning

In spite of recognized limitations with regard to general location cleaning methods, the many advantages of wall-to-wall carpeting (and the prohibitive expense of removing and relaying this carpet after cleaning) have made the development of satisfactory location cleaning methods mandatory. Inability to rinse after shampooing makes the proper choice of detergent important, as the residue must be a dry powder removable by vacuuming. Limitations on drying conditions available make it imperative that the volume of solution used be kept to a minimum reconcilable with good cleaning, virtually dictating more frequent cleaning to prevent excessive soiling in traffic lanes

Work carried out recently by the York Research Corp. demonstrates conclusively that the location cleaning characteristics of both tufted and woven nylon carpets should give complete owner satisfaction. As with plant cleaning, it was found that conventional techniques give excellent location cleaning of nylon, with texture retention superior to that obtained on other fibers. Moreover, drying times for nylon carpets range from only 1/2 to 2/3 that of other fibers tested.

Under conditions of 50% relative humidity at 70°F., a nylon carpet should dry in 3 to 4 hours, where adequate air circulation is maintained.

It has been established by actual experience as well as test work that location cleaning techniques in current use on commercial installations are equally satisfactory on nylon. Franchised dealers of such companies as Duraclean, Host, Karpet-Kare and Service Master, etc., are well equipped to satisfactorily clean carpets of nylon.

For the benefit of those who do not have a satisfactory procedure, the following was developed and used successfully by York Research in the location cleaning of the carpets previously mentioned:

Step (1): Vacuum thoroughly, using a heavy duty cleaner.

Step (2): Make up a lukewarm (110-120°F.) solution of detergent, of the type and concentration recommended by a reputable detergent supplier.

Step (3): Using a medium soft brush, shampoo on area approximately 4ft. x 4ft., overlapping brush strokes by at least half the brush diameter.

Step (4): Wet vacuum pick-up after shampooing of each section gives optimum pile restoration on deep pile carpets.

Step (5): If furniture must be replaced on wet carpeting, use clean cardboard or other protectors to prevent staining.

Absorbent Powder Cleaners - This type of product generally consists of a powder, clay, or wood flour base, with a dry cleaning solvent as the active cleaning agent. Though generally conceded to be less effective in soil removal than good wet cleaners, absorbent powders can do a good job of freshening traffic lanes and removing greasy type soil. Recent improvements in the formulations and application techniques used for some of these products have increased their usefulness. The advantages of rapid drying, freedom from "ringing" after spot cleaning, and excellent grease removal more than counterbalance (in many cases) the reduced ability of these cleaners to remove dry soil.

IX. MISCELLANEOUS CARPET MAINTENANCE INFORMATION

A. Cigarette Burns

If lighted cigarettes or matches are permitted to fall on a nylon carpet, a small charred or glazed spot may result (as with carpets of other fibers). In most cases, careful clipping of the blackened ends of the tufts, followed by brushing, will noticeably improve carpet appearance. In severe cases, replacement of the burned tuft or patching of the burned spot with another piece of matching carpet may be necessary. While nylon is not thought to be worse than wool in this property of discoloration, the effects of the burning are more resistant to scuffing and in most cases must be removed manually. For this reason it is recommended that the area around ash trays or other receptacles for lighted cigarettes and matches be duly protected against accidental dropping of these items.

B. Indelible Stains (Redyeing)

Stains containing certain types of coloration which are dyestuffs for nylon may give a permanent color change. As previously mentioned under spot cleaning, nylon is more resistant to chemical and physical degradation than other carpet fibers, but a small minority of these stains cannot be removed successfully. Clipping or replacement of the stained tuft may be possible in some cases, while patching may be necessary with a small but intensely stained area. For larger areas of permanent stain, consideration might be given to the possibility of having the carpet redyed. Some carpet manufacturers, as well as carpet cleaners, offer this service.

C. Insect and Mildew Resistance

Moths and carpet beetles do not find nylon palatable and we know of no substantiated case of damage by these insects to nylon pile fibers. No mothproofing is necessary for nylon pile.

Damage by mildew will probably be confined to carpet backing, and where this is a particular problem, special treatment of the backing material should be made prior to installation. Mildew will not weaken nylon fibers.

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